

The Effect Of Sacral Massage On Labour Pain and Anxiety: A Randomized Controlled Trial

Objective: This study was conducted as a randomized, control experimental study to determine the effect of sacral massage, on labour pain and anxiety.

Background

Labour is regarded as one of the physiological behaviours in humans that has existed since the beginning of humanity, the formation cycle of which has remained unchanged (Gönenç & Terzioğlu, 2012). Labour is a health state that most women aspire to, at some point in their lives. The first thought that comes to the mind of an expecting woman regarding her delivery is the pain of labour. The pain of the labour is the central and universal part of woman's experience of childbirth. Labour is a normal physiological process, which while should be an occasion for rejoicing, it also accompanies with it, lots of pain, agony, and discomfort and certain risks. Thus although being a joyful and empowering experience it can end with negative and tragic results, leaving the woman filled with fear and anxiety for future birth (Labrecque, Nouwen, Bergeron, & Rancourt, 1999). The causes of labour pain can be either physical or psychological. Physical factors include uterine contractions, cervical dilatations, cervical effacements etc. Psychological factors include fear and anxiety, previous experiences, inadequate support, inadequate knowledge. Pain perceived during labour may be different for each woman (Sethi & Barnabas, 2017). The fear and anxiety that pregnant women experience during the labour process leads to the stretching of pelvic muscles and creates resistance against the repulsive force of the uterus and the repulsive force exerted by the women during labour. The extension of the anxiety-related tension in the pelvic muscles causes general fatigue in pregnant women, increased pain and decreased power to cope with the pain (Gönenç & Terzioğlu, 2012). Feelings of anxiety can cause pregnant women to inappropriately respond and lose their self-control. Anxiety also reduces the self-confidence of an individual. As a result of this situation, pregnant women perceive themselves as incompetent and unskilled. The anxiety experienced during labour directs women to caesarean section by their own will (Fenwick et al., 2010). The essence of midwifery can be with woman providing comfort in labour. Touch communicates caring and reassurance. Manual healing methods used today during delivery include touch and massage therapy. Painful uterine contractions can be treated by applications of pressure with the hands to woman's back, hips, thighs and sacrum. By massage therapy, pharmacological management during the first stage of labour can be reduced. So less negative effects will be

there on foetus and mother (Smith, Levett, Collins,& Jones, 2012). Non-pharmacological and supportive methods that are used to decrease pain are a part of midwifery/nursing practices. Massage is the oldest tactile stimulation method that is used to relieve labour pain. Massage is a manual process performed on the soft tissues of the body for systemic purposes to improve health and well-being. Massage decreases the severity of pain, loosens the spasms and provides general relief during labour (Field, 2010).

METHODS

Study design

This was a randomized and controlled experimental study aimed to determine the effects of sacral massage on labour pain and anxiety.

Setting and samples

The study was performed in volunteer pregnant women who applied to xxx Training and Research Hospital, Delivery Unit, to undergo their first labour between January 25 and October 25, 2016. This unit contains 1 delivery room (with 2 tables), 2 labour follow-up rooms (with 5 beds), 1 postpartum room (with 5 beds) and 1 nursing room.

According to hospital records, in all, 342 pregnant women who applied to xxx Training and Research Hospital, Delivery Unit to undergo their first labour between January 25 and October 25, 2016, constituted the population of the study. The following inclusion criteria were used to determine participation in the study: (1) 19-40-year-old primiparous pregnant women;(2) Singleton pregnancies between 38-42 weeks; (3) Pregnant women whose labour began spontaneously; (4) Pregnant women with a healthy foetus; (5) Pregnant women without any complications that may cause dystocia during labour; (6) Pregnant women for whom analgesia and anaesthesia were not used during the first phase of labour; (7) Pregnant women who volunteered to participate in the research and who could establish verbal communication. In addition, Pregnant women with high-risk pregnancies, with caesarean section indication, and Pregnant women with a chronic illness were excluded.

The sample size was calculated by Medical Faculty Biostatistics Department using Minitab Program. The sample volume to represent the population was determined as minimum 30 people for each group when considering comparison results of mean scores in the study of Field., with a risk of $\alpha= 0.05$, an accuracy rate of $1-\alpha =0.95$ and a power ratio of $B= 0.20$, $1-B= 0.80$ [3].

The study was conducted with two groups, namely Massage Group (experimental), and Control Group. 30 pregnant women were included in each group; therefore, the study was conducted with a total of 60 pregnant women. The women who participated in the study were randomized randomly as control (double) and experimental (single) groups according to the single or double patient admission numbers. The women who participated in the study were randomized into either the control (double) or the experimental (single) group according to single or double patient admission numbers.

Measurements

In this study, the Questionnaire form, Birth action follow-up form, postpartum interview form ,Visual analogue scale (VAS) and State-trait anxiety inventory (STAI FORM TX-I) were used to collect the data.

1. *Questionnaire Form:* Questions that reflect the sociodemographic characteristics of the patients (age, educational status, social security, marital status), information about pregnancy (drugs used, status of their willingness to become pregnant, gestational week, status of attending examinations, status of collecting information about labour), the methods used to cope with the pain, and open-ended questions that evaluate the previous use of massage.

2. *Birth Action Follow-Up Form:* The questions that indicate the length of the first phase, the interventions performed to shorten the first phase of labour, the methods used by the patient to cope with the labour pain, the emotional behaviours of the pregnant women during labour, the length of the second phase, adjustment of the pregnant women, the presence of intervention in labour, the status of episiotomy, the total duration of labour and the baby's health.

3. *Postpartum Interview Form:* Open and closed questions that indicate the pregnant women's thoughts about labour, the status of overall satisfaction with labour and how the women feel were included in this form, which was prepared by a researcher in accordance with the relevant literature.

4. *Visual Analogue Scale (VAS):* The Visual Analogue Scale (VAS) was used to measure the severity of labour pain. On this scale, numbers from 0 to 10 appear on a horizontal line of 100 mm. The pain level is expressed in figures that range from 0 to 10, as follows: the absence of pain is indicated by "0", while the most severe pain is indicated by "10". In this method, it is explained to the individual that there are two endpoints and that he/she is free to mark any point that defines his/her pain.

The VAS was applied to the participants in the control group once in the latent (3-4 cm), active (5-7 cm) and transition phases (8-10 cm) of labour. The VAS was also applied to those in the experimental group once after the massage in each phase. The diagnosis was made in accordance with the subjective data including the patient's verbal expression.

5. State-Trait Anxiety Inventory (STAI FORM TX-I): To determine state and trait anxiety levels of the participants, the state-trait anxiety inventory (STAI FORM TX -I) was used. The individual is required to indicate the feelings or behaviours that he/she has experienced in a specific situation according to the degree of severity by marking one of the options such as (1) Never, (2) Little, (3) Very and (4) Completely. The state-trait anxiety inventory requires the individual to describe how he/she feels at a certain moment and under certain conditions by considering his/her feelings about a specific situation. While high scores indicate high anxiety levels, low scores indicate low anxiety levels. The state-trait anxiety inventory consists of 20 statements. The score obtained from the scale may vary between 20 and 80. While a high score represents a high anxiety level, a low score represents a low anxiety level. In the scoring performed in accordance with the criteria directive, 0-19 points are regarded as "none", 20-39 points are regarded as "mild anxiety", 40-59 points are regarded as "moderate anxiety", 60-79 points are regarded as "heavy anxiety" and 80 points are regarded as "severe anxiety". In our study, the STAI FORM TX-I was used in the active (5-7 cm) phase in the control group and in the active (5-7 cm) phase after the massage in the experimental group to evaluate the anxiety experienced by women during labour.

Data Collection

After approval and permission to conduct the study were obtained from the ethics committee, the hospital's head nurse, delivery room charge nurse/midwife and other midwives and nurses were interviewed and informed about the purpose and scope of the study. Data were collected by one of the researchers. The researcher was aware of which patients were assigned to each group. However, the researchers did not interfere in any way with the study results. When they encountered women who met the inclusion criteria of the study, the purpose of the study was explained, and written consents were received from those who agreed to participate in the study. For the women who satisfied the criteria, participation in the study was voluntary. Additionally, during the study, no women requested to withdraw and no women were excluded from the study. Routine care and treatments for the women continued during data collection.

Procedure

Before the research data were collected, an informative meeting regarding the purpose and scope of the study was held for the members of the healthcare team who worked in the obstetrics and gynaecology clinic of the Turkish Republic Ministry of Health Public Hospitals Administration of Turkey, at the Istanbul Province xxx Training and Research Hospital, where the study would be conducted. In addition, cooperation was provided by the members of the healthcare team. For the correct application of the massage, the researcher was trained by the physical therapist who work at hospital. The massage was applied only to the pregnant women in the intervention group at every phase of labour. There was no intervention in the control group except for routine hospital applications. The steps taken in this study are discussed below.

For the pregnant women included in the experimental group:

- One-on-one interviews were conducted with the pregnant women, and the voluntary disclosure forms, which explained the purpose of the study, were completed.
- The prepared questionnaire form was applied.
- In addition to providing them with routine nursing/midwifery care, the women in the experimental group were administered a massage to the sacral region under the supervision of a doctor for 30 minutes using the effleurage (patting) (15 minutes) and vibration technique (15 minutes) in the latent (3-4 cm), active (5-7 cm) and transition (8-10 cm) phases of labour. To achieve this, the patients were placed in the left lateral position in the latent (3-4 cm), active (5-7 cm) and transition (8-10 cm) phases of labour.
- The state-trait anxiety inventory (STAI FORM TX-I) was applied and evaluated after the massage in the active (5-7 cm) phase.
- The Visual Analogue Scale (VAS) was evaluated once after the massage in the latent (3-4 cm), active (5-7 cm) and transition (8-10 cm) phases.
- Birth action follow-up form and postpartum interview forms were applied.

For the pregnant women included in the control group:

- One-on-one interviews were conducted with the pregnant women, and the voluntary disclosure forms, which explained the purpose of the study, were completed.
- The prepared questionnaire form was applied.

- Routine nursing/midwifery care was applied.
- The state-trait anxiety inventory (STAI FORM TX-I) was applied and evaluated in the active (5-7 cm) phase.
- The Visual Analogue Scale (VAS) was evaluated once in the latent (3-4 cm), active (5-7 cm) and transition (8-10 cm) phases.
- Birth action follow-up form and postpartum interview forms were applied

One-on-one interviews were conducted with the women in both groups, and the voluntary disclosure forms, which explained the purpose of the study, were completed. After the prepared questionnaire form was applied to the women in the experimental group, routine nursing/midwifery care was provided.

Hypotheses of the Study

1. Massage applied to the sacral region decreases the perception of a woman's labour pain.
2. Massage applied to the sacral region decreases the woman's levels of concern and anxiety about labour.
3. Massage applied to the sacral region increases the woman's satisfaction with the labour.

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BASVURU BİLGİLERİ

ARAŞTIRMANIN AÇIK ADI	Sakral Bölgeye Yapılan Masajın Doğuma Etkisi		
ARAŞTIRMA PROTOKOL KODU	2015/216		
KOORDİНАTÖRSÜ MÜLÜ ARAŞTIRMACI UNVANI/ADISOYADI	Yrd.Doç.Dr.Semra Çevik, Hem.Serap Karaduman		
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DESTEKLİYICI			
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DEĞERLENDİRİLEN BELGELER	Belge Adı	Tarihi	Versiyon Numarası	Dili		
	ARAŞTIRMA PROTOKOLÜ	04.11.2015	1	Türkçe <input checked="" type="checkbox"/>	İngilizce <input type="checkbox"/>	Diğer <input type="checkbox"/>
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	OLGU RAPOR FORMU	01.11.2015	1	Türkçe <input checked="" type="checkbox"/>	İngilizce <input type="checkbox"/>	Diğer <input type="checkbox"/>
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KARABİLGİLERİ	Karar No:2015/19/OZ	Tarih:07.12.2015
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Prof. Dr. Fatma Tülin KAYHAN	K.B.B.	BEAH	E <input type="checkbox"/> K <input checked="" type="checkbox"/>	E <input type="checkbox"/> H <input checked="" type="checkbox"/> E <input type="checkbox"/> H <input type="checkbox"/>		
Doç. Dr. Özlem KAPTANOĞULLARI	İç Hastalıkları	BEAH	E <input type="checkbox"/> K <input checked="" type="checkbox"/>	E <input type="checkbox"/> H <input checked="" type="checkbox"/> E <input type="checkbox"/> H <input type="checkbox"/>		
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Prof. Dr. Ufuk EMEKLİ	Plastik Ve Estetik Cerrahi	I.U. İst. Tip Fak.	E <input checked="" type="checkbox"/> K <input type="checkbox"/>	E <input type="checkbox"/> H <input checked="" type="checkbox"/> E <input type="checkbox"/> H <input type="checkbox"/>		
Prof. Dr. Gülsüm Nurhan İNCE	Halk Sağlığı	I.O. İst. Tip Fak.	E <input type="checkbox"/> K <input checked="" type="checkbox"/>	E <input type="checkbox"/> H <input checked="" type="checkbox"/> E <input type="checkbox"/> H <input type="checkbox"/>		
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